CLAIMS

1. Device for implanting at least one row of X radioactive seeds and Y non-radioactive spacers with $X \in [1, 2, ...]$ and $Y \in [0, 1, ...]$ in a desired configuration to a desired location in an animal body for effecting radiation therapy of cancerous tissue in said body, said device comprising:

a) at least one elongated hollow needle with an open distal end to be inserted towards said desired location in the body and with a proximal end to be connected to a seed loading apparatus; and

b) at least one pushing element for implanting during retraction of the elongated hollow needle said row of radioactive seeds and non-radioactive spacers from said seed loading apparatus through said hollow needle towards said location,

characterized in that the device further comprises:

c) at least one tube-shaped element with at least one open end to be inserted through said hollow needle towards said desired location; and

d) at least one tube-shaped sleeve member with an open distal and open proximal end for inserting said tube-shaped element through said hollow needle towards said desired location, wherein

said tube-shaped element serves to accommodate said row of radioactive seeds and non-radioactive spacers.

2. Implanting device according to claim 1, wherein said tube-shaped element is inserted through said hollow needle prior to the insertion of the row of radioactive seeds and non-radioactive spacers.

3. Implanting device according to claim 1, wherein said pushing element is constructed as a rigid pushing rod.

4. Implanting device according to claim 1, wherein said pushing element is constructed as a drive wire of the seed loading apparatus.

5. Implanting device according to claim 1, wherein said tube-shaped sleeve member is provided at its proximal end with a stopper element.

6. Implanting device according to claim 5, wherein said stopper element is constructed as a disc shaped end plate.

7. Implanting device according to claim 1, wherein the outer dimensions of the tube-shaped sleeve member and the tube-shaped element are equal or slightly smaller than the inner dimensions of said hollow needle.

8. Implanting device according to claim 1, wherein the inner dimensions of the tube-shaped sleeve and the tube-shaped element are equal or slightly larger than the outer dimensions of said radioactive seed and non-radioactive spacer.

9. Implanting device according to claim 1, wherein

$l \geq (X + Y)s$ and $S \leq (L - l)$,

in which

l is the length of the tube-shaped element;

s is the length of one individual seed/spacer;

L is the length of the hollow needle;

S is the length of the tube-shaped sleeve member.

10. Implanting device according to claim 1, wherein said tube-shaped element is made of a bio-absorbable material.

11. Implanting device according to claim 1, wherein the tube-shaped element has two open ends.

12. Implanting device according to claim 1, wherein the tube-shaped element has one open end, more in particular a closed distal end.

13. Implanting device according to claim 1, wherein prior to the insertion through the hollow needle the tube-shaped element has an oval-shaped cross section and a circular cross section when inserted in the hollow needle.

14. Implanting device according to claim 1, wherein the tube-

shaped element has a circular cross section.

15. Implanting device according to claim 1, wherein the tube-shaped element is made of a flexible material for exerting an inwardly directed force on the row of radioactive seeds and non-radioactive spacers.

16. Implanting device according to claim 1, wherein at least the open proximal end of said tube-shaped element is collapsable.

17. A seed loading apparatus provided with an implanting device according to the invention.

18. A row of X radioactive seeds and Y non-radioactive spacers with $X \in [1, 2, ...]$ and $Y \in [0, 1, ...]$ in a desired configuration, wherein said seeds and spacers are accommodated in a tube-shaped element according to the invention.